

## CLAIMS

1. A spring mattress with longitudinal strings  
5 comprising a plurality of interconnected coil springs  
(1) enclosed in covers (2), a plurality of such parallel  
strings being arranged side by side and interconnected  
by surface attachment between abutting surfaces,  
c h a r a c t e r i s e d in that a slit is provided  
10 between at least two springs located adjacent to one  
another within the same string, which slit allows an  
increased interjacent separation distance (SA) to be  
formed between said adjacent springs.

2. A spring mattress as claimed in claim 1, where-  
15 in the slit is provided in such manner that it is com-  
pletely enclosed between the upper and the lower part of  
the string.

3. A spring mattress as claimed in claim 1 or 2,  
wherein slits are provided between essentially all adja-  
20 cent springs in essentially all the strings arranged in  
parallel.

4. A spring mattress as claimed in claim 1 or 2,  
wherein slits are provided only between some of all adja-  
cent springs of at least some of the strings to obtain  
25 zones with different properties across the mattress.

5. A spring mattress as claimed in any one of the  
preceding claims, wherein the cover material is joined  
together on both sides along the slit to close the covers  
along the slit.

30 6. A spring mattress as claimed in any one of the  
preceding claims, wherein the surface attachment adapt-  
ed to interconnect the strings comprises at least one of  
gluing and welding.

7. A spring mattress as claimed in any one of the  
35 preceding claims, wherein the separation distance exceeds  
about 10% of the diameter of the largest one of the

spiral turns of the adjacent springs, and preferably exceeds 15% and most preferably exceeds 20%.

8. A spring mattress as claimed in any one of the preceding claims, wherein the separation distance exceeds  
5 1 cm.

9. A spring mattress as claimed in any one of the preceding claims, wherein it has a density of springs in the string direction, in strings in which slits are provided, of less than 15 springs per meter, and preferably  
10 less than 13 springs per meter.

10. A spring mattress as claimed in any one of the preceding claims, wherein the cover is made from a preferably weldable textile fabric.

11. A method of manufacturing a spring mattress,  
15 comprising the steps of:

arranging coil springs (1) in such manner that they are enclosed in covers (2) in longitudinal strings, and interconnecting a plurality of parallel strings side by side by surface attachment between abutting surfaces,  
20 characterised by the further step of providing a slit between at least two springs located adjacent to one another within the same string, which slit allows an increased interjacent separation distance (SA) to be formed between these adjacent springs.

25 12. A method as claimed in claim 11, wherein the at least one slit is provided in such manner that it is completely enclosed between the upper and the lower part of the string.

30 13. A method as claimed in claim 11 or 12, further comprising joining together of the cover material on both sides along the slit to close the covers along the slit, which joining together is preferably provided before providing the slit.

35 14. A method as claimed in any one of claims 11-13, wherein interconnecting of a plurality of parallel strings side by side by surface attachment between abutting surfaces is achieved by gluing and/or welding.

15. A method as claimed in any one of claims 11-14, wherein the step of providing coil springs (1) in such manner that they are enclosed in covers (2) in longitudinal strings comprises the partial steps of

5       arranging a strip of a cover material so that it is folded over springs arranged in succession therebetween, providing a longitudinal joining line (7) at the open end of the strip thus folded, and

10       arranging, before or after providing the longitudinal joining line (7), at least one transverse joining line (5) between adjacent springs in each pair of springs.

16. A method as claimed in claim 15, wherein the step of providing slits between springs located adjacent to one another within the same string is carried out at the same time as, or directly after, the arranging of the at least one transverse joining line (5) between said springs.

17. A apparatus for manufacturing a spring mattress, comprising

20       means for arranging coil springs (1) enclosed in covers (2) in longitudinal strings, and

25       means for interconnecting a plurality of parallel strings side by side by surface attachment between abutting surfaces,

30       c h a r a c t e r i s e d in that it further comprises means for providing a slit between at least two springs located adjacent to one another within the same string, which slit allows an increased interjacent separation distance (SA) to be formed between these adjacent springs.

18. An apparatus as claimed in claim 17, wherein the means for providing a slit between at least two springs located adjacent to one another within the same string is adapted to arrange the slit so that it is completely enclosed between the upper and the lower part of the string.

19. An apparatus as claimed in claim 17 or 18, further comprising means for joining together the cover material on both sides along the slit, to close the covers along the slit.

5        20. An apparatus as claimed in any one of claims 17-19, wherein the means for interconnecting a plurality of parallel strings side by side by surface attachment between abutting surfaces is adapted to effect said interconnection by gluing and/or welding.

10       21. A device as claimed in any one of claims 17-20, wherein the means for arranging coil springs (1) in such manner that they are enclosed in covers (2) in longitudinal strings comprises

15       means for arranging a strip of a cover material so that it is folded over springs arranged in succession therebetween,

      means for arranging a longitudinal joining line at the open end of the strip thus folded, and

20       means for arranging at least one transverse joining line between each pair of adjacent springs.

      22. A device as claimed in any one of claims 17-21, wherein the means for arranging the at least one slit is a cutting tool arranged to be moveable towards the cover material.

25       23. A device as claimed in claim 21 and 22, wherein the cutting tool is arranged adjacent to the means for arranging at least one transverse joining line between adjacent springs in each pair of springs and adapted to operate jointly with said means.

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